II.   CLAIM AMENDMENTS:

1.   (Original) A method for identifying a network-wide set of paths potentially taken by packets in a communications network, comprising the steps of:

collecting packets containing information indicative of the interconnection of the network, and of its interconnection with other networks;

detecting the contents of the selected packets;

using the detected contents to identify the network-wide set of routers and sub-networks and their interconnections, that are traversed by communications within the network; and

providing an output indicative of any selected part of the network-wide set of routers and sub-networks and their interconnections.

2.   (Currently Amended) The method of claim 1, including the step of using the detected contents to determine the functionality associated with the identified routers and sub-networks, and ~~the~~ cost metrics of the identified interconnections, which are traversed by communications within the network.

3.   (Original) The method of claim 2, including the step of using the detected contents to determine a network-wide set of

potential paths, both through the network and connecting the network with other networks, which are traversed by communications within the network.

4. (Original) The method of claim 3, including the step of using the detected contents to determine a set of default paths, as defined by the cost metrics, which are traversed by communications within the network.

5. (Original) The method of claim 3, including the steps of:

   querying the routers based upon their predetermined functionality; and

   using the results of the querying to determine if packet classification is occurring at network ingress routers and if any alternative logical paths to the default path are traversed by communications within the network.

6. (Original) The method of claim 3, including the step of using the detected contents to determine alternative logical paths that could be traversed by communications within the network.

7. (Cancelled)

8. (Original) The method of claim 5, including the step of querying the routers for properties associated with the

determined paths that are indicative of predetermined routing objectives for the paths.

9-11.   [Cancelled]

12.   (Original) Apparatus for identifying a network-wide set of paths potentially taken by packets in a communications network, comprising:

  a collector for collecting packets containing information indicative of the interconnection of the network, and of its interconnection with other networks;

  a detector for detecting the contents of the selected packets;

  an identifier for using the detected contents to identify the network-wide set of routers and sub-networks and their interconnections, that are traversed by communications within the network; and

  an output for providing an indication of any selected part of the network-wide set of routers and sub-networks and their interconnections.

13.   (Currently Amended) The apparatus of claim 12, wherein the identifier uses the detected contents to determine the functionality associated with the identified routers and sub-networks, and ~~the~~ cost metrics of the identified interconnections, which are traversed by communications within the network.

14. (Original) The apparatus of claim 13, wherein the identifier uses the detected contents to determine a network-wide set of potential paths, both through the network and connecting the network with other networks, which are traversed by communications within the network.

15. (Original) The apparatus of claim 14, wherein the identifier uses the detected contents to determine a set of default paths, as defined by the cost metrics, which are traversed by communications within the network.

16. (Original) The apparatus of claim 14, including a query generator for querying the routers based upon their predetermined functionality, wherein the identifier uses the results of the querying to determine if packet classification is occurring at network ingress routers and if any alternative logical paths to the default path are traversed by communications within the network.

17. (Original) The apparatus of claim 14, wherein the identifier uses the detected contents to determine alternative logical paths that could be traversed by communications within the network.

18. (Cancelled)

19. (Original) The apparatus of claim 16, wherein the query generator queries the routers for properties associated with the

determined paths that are indicative of predetermined routing objectives for with the paths.

20-22.   (Cancelled)

23.   (New) The method of claim 4, including the steps of:

   querying   the   routers   based   upon   their   predetermined
      functionality;

   using the results of the querying to determine if packet
      classification is occurring at network ingress routers and
      if any alternative logical paths to the default path are
      traversed by communications within the network;   and

   generating a comparison between the determined paths.

24.   (New) The method of claim 23, including the steps of:

   querying   the   routers   for   properties   associated   with   the
      determined   paths   that   are   indicative   of   predetermined
      routing objectives for the paths;   and

   using the comparison to determine alternative logical paths to
      those currently in use that would meet the predetermined
      routing objectives.

25.   (New) The method of claim 4, including the steps of:

using the detected contents to determine alternative logical paths that could be traversed by communications within the network; and

generating a comparison between the determined paths.

26. (New) The method of claim 25, including the steps of:

querying the routers for properties associated with the determined paths that are indicative of predetermined routing objectives for the paths; and

using the comparison to determine alternative logical paths to those currently in use that would meet the predetermined routing objectives.

27. (New) The method of claim 5, including the steps of:

using the detected contents to determine alternative logical paths that could be traversed by communications within the network; and

generating a comparison between the determined paths.

28. (New) The method of claim 27, including the steps of:

querying the routers for properties associated with the determined paths that are indicative of predetermined routing objectives for the paths; and

using the comparison to determine alternative logical paths to those currently in use that would meet the predetermined routing objectives.

29. (New) The method of claim 4, including the steps of:

querying the routers based upon their predetermined functionality;

using the results of the querying to determine if packet classification is occurring at network ingress routers and if any alternative logical paths to the default path are traversed by communications within the network;

using the detected contents to determine alternative logical paths that could be traversed by communications within the network; and

generating a comparison between the determined paths.

30. (New) The method of claim 29, including the steps of:

querying the routers for properties associated with the determined paths that are indicative of predetermined routing objectives for the paths; and

using the comparison to determine alternative logical paths to those currently in use that would meet the predetermined routing objectives.